

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed July 8, 2003. Upon entry of the amendments in this response, claims 1-6, 8-12, and 14-31 remain pending. In particular, Applicant has added claims 30 and 31, has amended claims 16, 8-12, 26, 27, and 29, and has canceled claims 7 and 13 without prejudice, waiver, or disclaimer. Applicant has canceled claims 7 and 13 because the limitations of these claim are incorporated in their respective independent claims. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

Amendment to the Claims

Claim 1 is amended to recite "a length of at least approximately 0.5 inches after combining said recycled thermoplastic with said reinforcing fibers." Basis for the amendment is found in the specification as originally filed, for example, pages 24-26. Additionally, claim 1 is amended to further clarify the scope of the claimed subject matter, for example, by deleting the term "pellet" in the preamble and replacing the term with --shaped article-- in the body of the claim.

Claims 2-6 and 8-10 are also amended to clarify the scope of the claims, for example, by deleting the term "pellet". Claim 8 is also amended to replace the term "pellet" with --shaped article--.

Claim 11 is amended to recite "wherein said formed thermoplastic composite comprises high-modulus reinforcing fibers having a length of at least approximately 0.5 inches". Basis for this amendment is found in the specification as originally filed, for example, pages 24-26.

Claim 26 is amended to replace the term "before" with the term --after--. Basis for this amendment is found in the specification as originally filed, for example, pages 24-26.

Claim 27 is amended to recite "and the reinforcing fibers maintain a length of at least 0.5 inches". Basis for this amendment is found in the specification as originally filed, for example, on pages 24-26.

Claim 29 is amended to "in said low shear zone to maintain the reinforcing fiber length of at least approximately 0.5 inches". Basis for this amendment is found in the specification as originally filed, for example, on page 24-25.

Applicant submits that no new matter is introduced by these claim amendments.

Double-Patenting Rejection

The Office Action indicates that claims 1-29 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent Number 6,271,270. In this regard, Applicant submits herewith a timely filed terminal disclaimer in compliance with 37 CFR 1.321(c). Applicant also submits an assignment of the present application from Georgia Tech Research Foundation to Georgia Composites, Inc. Georgia Composites is the common owner of the '270 patent and the present application, and therefore, the Terminal Disclaim is proper. Applicant respectfully asserts that the double-patenting rejection has been overcome.

Rejections Under 35 U.S.C. § 102(b)

The Office Action indicates that claims 1 and 11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Fink* (U.S. Patent No. 5,578,357) because *Fink* allegedly discloses recyclable carpet having isotactic polypropylene and fibers which would inherently have the same high-modulus value as a minimum modulus of one million psi. Additionally *Fink* is cited as disclosing a method for recycling synthetic carpet by an extruder that could have the desired

construction to force molten polymer through the die. Applicant respectfully traverses this rejection because *Fink* does not disclose all of the elements of amended claims 1 and 11.

For a proper rejection of a claim under 35 U.S.C. Section 102(b), the cited reference must disclose all elements of the claim. See, e.g., *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 USPQ2d 1129 (Fed. Cir. 1988).

Claim 1 is amended to describe the reinforcing fibers as having "a length of at least approximately 0.5 inches after combining said recycled thermoplastic with said reinforcing fibers." Claim 11 is amended to recite that the formed thermoplastic composite includes high-modulus fibers having a length of at least approximately 0.5 inches. Applicant submits that *Fink* does not disclose a thermoplastic composite having reinforcing fibers with a length of at least 0.5 inches before or after combining the recycled thermoplastic with the reinforcing fibers. *Fink* discloses using recycled carpet fibers that are ground to a length of less than 0.25 inches (col.16, lines 27-31) before applying the thermoplastic. Accordingly, Applicant submits that the rejection of claims 1 and 11 as anticipated by *Fink* is overcome.

Rejections under 35 U.S.C. § 103(a)

The Office Action indicates that claims 1 - 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Fink* in view of *Sperk, Jr.* (U.S. Patent No. 5,258,445) because it would allegedly have been obvious to one of ordinary skill in the art to modify the teachings of *Fink* with the teachings of *Sperk* to have fibers having a length of 0.5 inches to improve the strength and flexibility of the obtained thermoplastic. Applicant respectfully traverses this rejection because the combination of *Fink* and *Sperk* does not result in the claimed subject matter.

The United States Patent and Trademark Office (USPTO) has the burden of showing a prima facie case of obviousness. *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993). In determining

obviousness, the invention must be considered as a whole, and the claims must be considered in their entirety. *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1567 (Fed. Cir. 1983). A prima facie case of obviousness is established when the teachings from the prior art itself would have suggested the claimed subject matter to a person of ordinary skill in the art. *In re Rhinehart*, 531 F.2d 1048, 1051 (CCPA 1976). More specifically, the requirements for establishing a prima facie case of obviousness include: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art reference (or references when combined) must teach or suggest all the claim limitations.

When a rejection depends on a combination of prior art references, the USPTO must show that there is some teaching, suggestion, or motivation to combine the references. *In re Geiger*, 815 F.2d 686, 688 (Fed. Cir. 1987). The mere fact that the prior art could be modified would not have made the modification obvious unless the prior art suggested the desirability of the modification. *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). Finally, obviousness may not be established using hindsight. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1551 (Fed. Cir. 1983).

The Office Action cites *Fink* as teaching a method for recycling synthetic carpet through an extruder to force molten polymer through the die and extruding the polymer into a desired shape. *Sperk* is cited as teaching fiber-reinforced thermoplastic molding compositions including fibers having lengths between 1/8 and two inches. Applicant submits that *Sperk* does cure the

deficiencies in *Fink* because *Sperk* does not teach or suggest a thermoplastic composite having reinforcing fibers of at least about 0.5 inches.

Sperk teaches that fibers having an initial length of 1/8 to two inches in length can be used before shear blending (col. 17, line 66 to col. 18, line 3). *Sperk* also teaches that shear mixing of fibers with polymers typically reduces the size of the fibers to about 0.2 to about 3 millimeters (col. 17, lines 44-49). Thus, *Sperk* does not teach thermoplastic composites or methods of producing composites having reinforcing fibers of at least 0.5 inches because the fibers used in *Sperk* are shear mixed with polymers causing any composite of *Sperk* to have fibers of about 0.2 to about 3 millimeters. *Sperk* does not teach or suggest thermoplastic composites or methods of making thermoplastic composites having reinforcing fibers of at least about 0.5 inches in length in the formed thermoplastic composite. Accordingly, Applicant submits that the combination of *Fink* and *Sperk* does not teach or suggest all of the elements of independent claims 1, 11, 30, or 31, and the rejection is overcome.

New Claims

Claims 30 and 31 have been newly added to further define and/or clarify the scope of the invention. Basis for the claims is found in the specification as originally filed, for example, on pages 24-26. Applicant believes these new claims are allowable over the prior art of record for at least the reasons claims 1 and 11 are allowable.

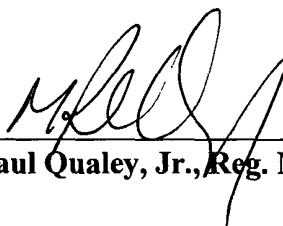
References Cited in Related U.S. Patent Nos. 6,387,967

Applicant notes that the First Office Action does not indicate whether the references in related U.S. Patent No. 6,387,967 ('967) were considered. Because the present application is a continuation-in-part of the '967 patent, Applicant respectfully requests the Examiner to make the references cited in the '967 patent of record in the present application.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-6, 8-12, and 14-31 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



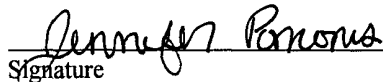
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CERTIFICATE OF MAILING

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